REMARKS

In the patent application, claims 1-27 are pending. In the office action, all pending claims are rejected.

Applicant has canceled 7 and 8, amended claims 1, 2, 5, 6, 9, 10, 14, 17-26 and added new claims 28 and 29.

Independent claims 1, 14, 17, 23, 24 and 25 have been amended to include the limitation that the scene transition types comprise at least one of the gradual scene transition types.

The support can be found in the original claim 5.

Claim 1 has been further amended to change the wording such that the type of scene transition is identified based on the information.

Claim 6 has been amended such that the gradual scene transition types comprise a fade, a dissolve and a wipe.

The support can be found in the original claims 6-8.

Claims 2, 5, 9, 10, 18-22 and 26 have been amended to change the wording

New claim 28 is dependent from claim 1 and includes the limitation that the error concealment is applied in a decoding process.

The support for claim 28 can be found in the previously presented claim 1.

No new matter has been introduced.

On page 2 of the final office action, the Examiner maintains the rejections in the non-final office action, mailed January 26, 2010.

At section 7 of the non-final office action, claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Chakraborty* (U.S. Patent No. 7,110,454 B1), in view of *Oh et al.* (U.S Patent No. 7,551,673 B1, hereafter referred to as *Oh*).

In rejecting claims 1-27, the Examiner states that *Chakraborty* discloses a method (Figures 2A-2B) comprising:

retrieving in a decoder information (col.6, lines 45-50) indicative of type of scene transition from an encoded video bitstream for identifying the type of scene transition (col.1, lines 55-67), wherein the encoded video bistream comprises a video sequence, the video sequence comprising at least a first scene and a second scene, the second scene comprising a scene transition from the first scene (col.7, lines 50-60), wherein the scene transition comprises a number of frames and the scene transition is one of a number of scene transition types (col.14, lines 35-50).

The Examiner admits that *Chakraborty* fails to disclose applying in a decoding process an error concealment procedure to conceal an error in a frame belonging to the scene transition based on the identified type of scene transition. The Examiner points to *Oh* for disclosing applying in a decoding process an error concealment procedure to conceal an error in a frame belonging to the scene transition based on the motion characteristics of the identified type of scene transition (col.10, lines 23-28; col.11, lines 5-10) in order to derive accurate motion vectors for error concealment (col.6, lines 58-62).

The Claimed Invention

As claimed in claims 1, 14, 17, 23, 24 and 25, the scene transition types comprise at least one of the gradual scene transition types, and information indicative of a type of scene transition is retrieved from or provided in the encoded bitstream for identifying the type of scene transition.

Neither *Chakraborty* nor *Oh* discloses such information.

The Cited *Chakraborty* Reference

Chakraborty does not disclose or suggest providing information indicative of a type of scene transition in an encoded bitstream. At col.6, lines 42-51, *Chakraborty* only describes the source from which the data acquisition module 13 captures or extracts video frames. In particular, the video data input to the data acquisition module 13 is either

compressed or decompressed video data. Compressed data may be in an MJPEG or an MPEG data stream. According to *Chakraborty*, a metric computation 14 is used to analyze the input data and output a time series of data for each metric (col.7, line 7-10), and a scene change detector 18 is used to detect a scene change in the video data based on the times series data (col.7, lines 17-23). Based on the detected changes, the scene change detector 18 outputs a list of scenes (or shots) corresponding to the input video data in a database (col.7, lines 61-62).

In summary, *Chakraborty* discloses comparing the time series of data based on either compressed or decompressed video data for scene change detection. *Chakraborty* does not disclose using information in the encoded bitstream to identify the type of scene transition.

The Cited *Oh* Reference

The Examiner points to *Oh* for disclosing applying in a decoding process an error concealment procedure to conceal an error in a frame belonging to the scene transition based on the motion characteristics of the identified type of scene transition (col.10, lines 23-28; col.11, lines 5-10) in order to derive accurate motion vectors for error concealment (col.6, lines 58-62).

It is respectfully submitted that *Oh* only discloses a method and apparatus for encoding digital video according to MPEG standards using an adaptive motion estimator. In particular, the encoder derives a plurality of global motion vectors from the motion vectors of a previous picture in a sequence, and the global motion vectors are analyzed to determine motion characteristics (Abstract; Figure 1). The purpose of determining the motion characteristics is to determine the type of motion estimator to be used for subsequence pictures (Abstract; col.4, lines 49-52; col.6, lines 6-8). According to *Oh*, the global motion estimator is updated with MB (macroblock) motion vectors from the past processed pictures by the adaptive motion estimator (col.6, lines 9-18). If the MBs belong to an I-picture, it is possible to subject those MBs to the adaptive motion estimator for generation of error concealment motion vectors such as defined in MPEG2 standard (col.6, lines 52-62). In col.10, lines 24-33, *Oh* discloses that, in the absence of scene changes, the type of motion estimation scheme selected is often suitable for pictures in the vicinity of the current picture. In that case, if FS_GMV1 is associated with a particular picture, then pictures that used

global motion vectors derived from that particular picture will also use FS_GMV1 for the motion vector detection process.

In summary, *Oh* is concerned with determining the type of motion estimator to be used for subsequent picture based on the motion characteristics. *Oh* has nothing to do with applying an error concealment procedure to conceal an error in a frame belonging to the scene transition.

Oh does not disclose or suggest applying an error concealment procedure to conceal an error in a frame belonging to the scene transition based on the identified type of scene transition.

The Combined Teachings of *Chakraborty* and *Oh*

Chakraborty does not disclose using information provided in or retrieved from the encoded bitstream for error concealment, wherein the information is indicative of a type of scene transition.

For this reason alone, the combined teachings of *Chakraborty* and *Oh* fail to render the claimed invention obvious.

Oh does not disclose or suggest applying an error concealment procedure to conceal an error in a frame belonging to the scene transition based on the identified type of scene transition.

For this reason alone, the combined teachings of *Chakraborty* and *Oh* fail to render the claimed invention obvious.

For the above reasons, *Chakraborty*, in view of *Oh*, fails to render independent claims 1, 14, 17, 23, 24 and 25 obvious.

As for claims 2-6, 9-13, 15, 16, 18-22 and 28, they are dependent from claims 1, 14 and 17. For reasons regarding claims 1, 14 and 17 above, *Chakraborty*, in view of *Oh*, also fails to render claims 2-13, 15, 16, 18-22, 28 and 29 obvious.

CONCLUSION

Claims 1-6, 9-29 are allowable.

Respectfully submitted,

Ken Lao

Kenneth Q. Lao
Registration No. 40,061

Date: November 11, 2010

WARE, FRESSOLA, VAN DER SLUYS
& ADOLPHSON LLP
Bradford Green, Building 5
755 Main Street, PO Box 224
Monroe, CT 06468
(203) 261-1234